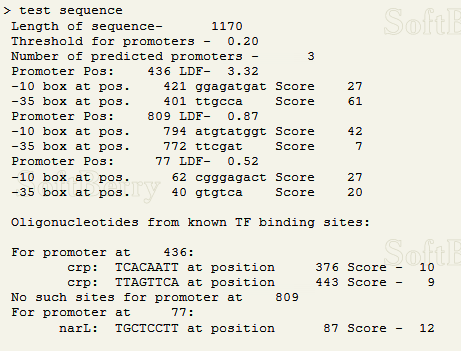
**Exercise 8:** Promotor prediction.

In this exercise we will use the BPROM program to identify the promotor region of the hep2 gene of *Heliobacillus mobilis.*

1. Retrieve the sequence containing the hep2 gene from [GenBank](http://www.ncbi.nlm.nih.gov/genbank/) (accession code EU052681).
2. Click on “fasta” )upper left of page) to convert the sequence to a fasta file.
3. The BPROM algorithm predicts potential transcription start positions of bacterial genes regulated by sigma70 promoters (major E.coli promoter class). The σ70 (RpoD) factor is the "housekeeping" sigma factor that transcribes most genes in growing cells. A linear discriminant function (LDF) is used that predict these transcription start sites, and which combines characteristics describing functional motifs and oligonucleotide composition of these sites.

Go to the [BPROM](http://www.softberry.com/berry.phtml?topic=bprom&group=programs&subgroup=gfindb) website and use your sequence as input for promotor prediction. The result is shown in the figure below.



**Figure 6.** Output of the BPROM program for the hep2 gene of *Heliobacillus mobilis*